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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/531,152

04/07/2006

Paul Howard

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EXAMINER

LUGO, DAVID B

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

01/05/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/531,152	Applicant(s) HOWARD, PAUL	
	Examiner DAVID B. LUGO	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 15-17 is/are rejected.
- 7) ☒ Claim(s) 4-14 and 18-30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/19/05, 7/23/07</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Information Disclosure Statement

1. In the information disclosure statement (IDS) submitted on 7/23/07, citation no. 8, the filing date of GB Application No. 0224757.5 has been corrected. All references have been considered.

Specification

2. The disclosure is objected to because of the following informalities:
- a. Page 10, line 10, “analog-to-digital filters 132 and 134” should be “digital-to-analog filters 132 and 134” as they are part of digital-to-analog converter (DAC) section 130 (see page 9, line 27).
 - b. Page 10, line 10, “ADC converters 132 and 134” should be “DAC converters 132 and 134”.

Appropriate correction is required.

Claim Objections

3. Claims 4-14 and 18-30 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Fague et al. U.S. Patent No. 5,768,317 (cited by Applicant).

6. Regarding claims 1 and 15, Fague discloses a filter arrangement in Figure 2 for use in a wireless transmitter comprising means for receiving digital signals (NRZ) to be transmitted, DAC means 20 for converting the digital signals to analog signals, channel filter means 30 for filtering the analog signals, and digital pre-equalizer filter means (54, 55) being adapted to substantially correct for non-ideality in the analog channel filter means (col. 2, lines 40-55).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 2 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fague et al. in view of Labat et al. U.S. Patent No. 5,909,466.

9. Regarding claims 2 and 16, Fague discloses a filter arrangement having a pre-equalizer as described above, and further shows an equalizer magnitude response and an equalizer phase response (Figs. 6-7), but does not expressly disclose means for correcting for a non-linear phase response and means for correcting for an amplitude error response. Labat discloses an equalizer in Figure 3 having a section for equalization of the magnitude 11, and a separate section for equalization of the phase 12 (col. 4, lines 38-40). It would have been obvious to one of ordinary skill in the art to use the teachings of magnitude equalization and phase equalization in the filter arrangement of Fague so that the amplitude and phase response can be separately compensated.

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10. Claims 3 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fague et al. in view of Labat et al. and McGibney U.S. Patent No. 7,324,559.

11. Regarding claims 3 and 17, Fague in combination with Labat disclose a filter arrangement having a pre-equalizer as described above, but does not expressly disclose that the pre-equalizer comprises an FIR filter. McGibney discloses a pre-equalizer 62 comprising an FIR filter (col. 5, lines 64-65; Fig. 2). It would have been obvious to one of ordinary skill in the art to use an FIR filter in the pre-equalizer of Fague because FIR filters are known to achieve high levels of computation precision and allow flexibility.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID B. LUGO whose telephone number is (571)272-3043. The examiner can normally be reached on M-F; 9:30-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on 571-272-3066. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David B. Lugo/
Primary Examiner, Art Unit 2611
1/4/09